PEO(TAD) hosted a meeting to discuss issues associated with the forward fit functional allocation and integration methodologies associated with the Combat Direction Systems and AIEWS.

The first topic of discussion was the AIEWS to Combat Direction System functional allocation. After discussions the functional allocation depicted in Figure 1 was agreed to. NSWC/DD took action to complete a Functional Allocation white paper which was published on 02/12/97. The Functional Allocation white paper and the P&CR supercede this document.

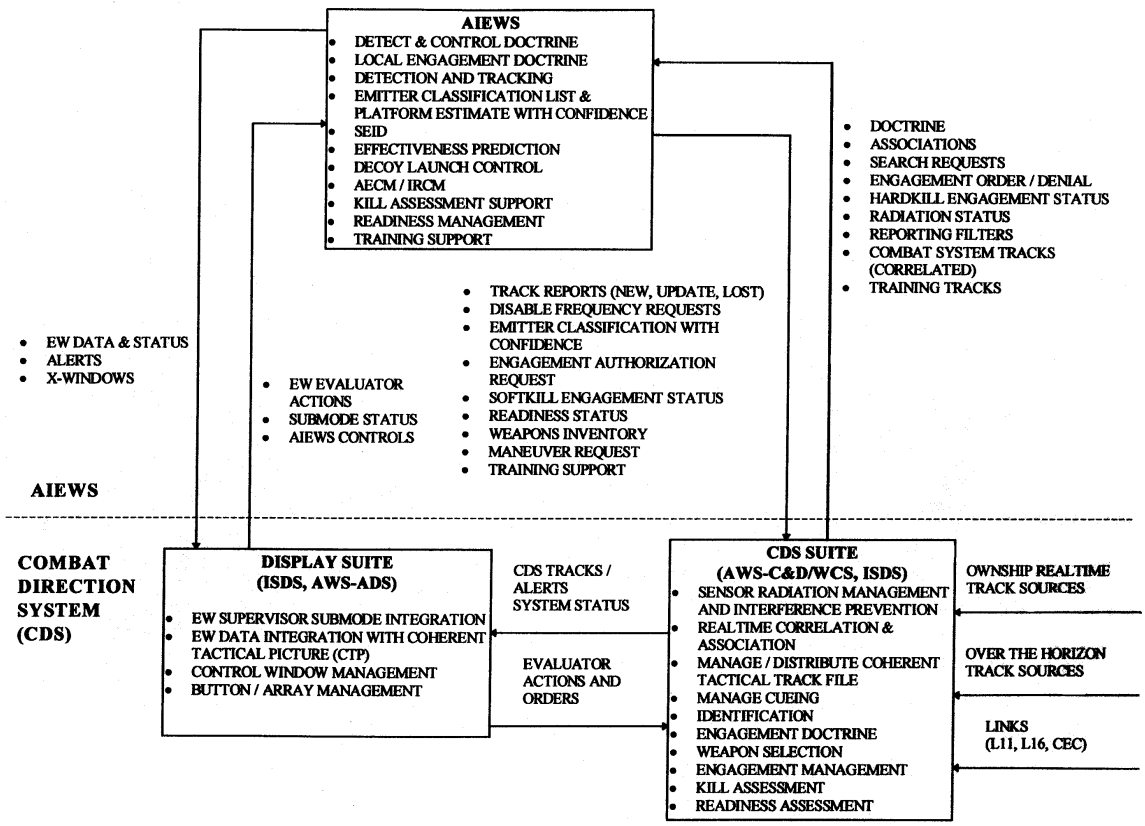

Figure 1. AIEWS to Combat Direction System Functional Allocation

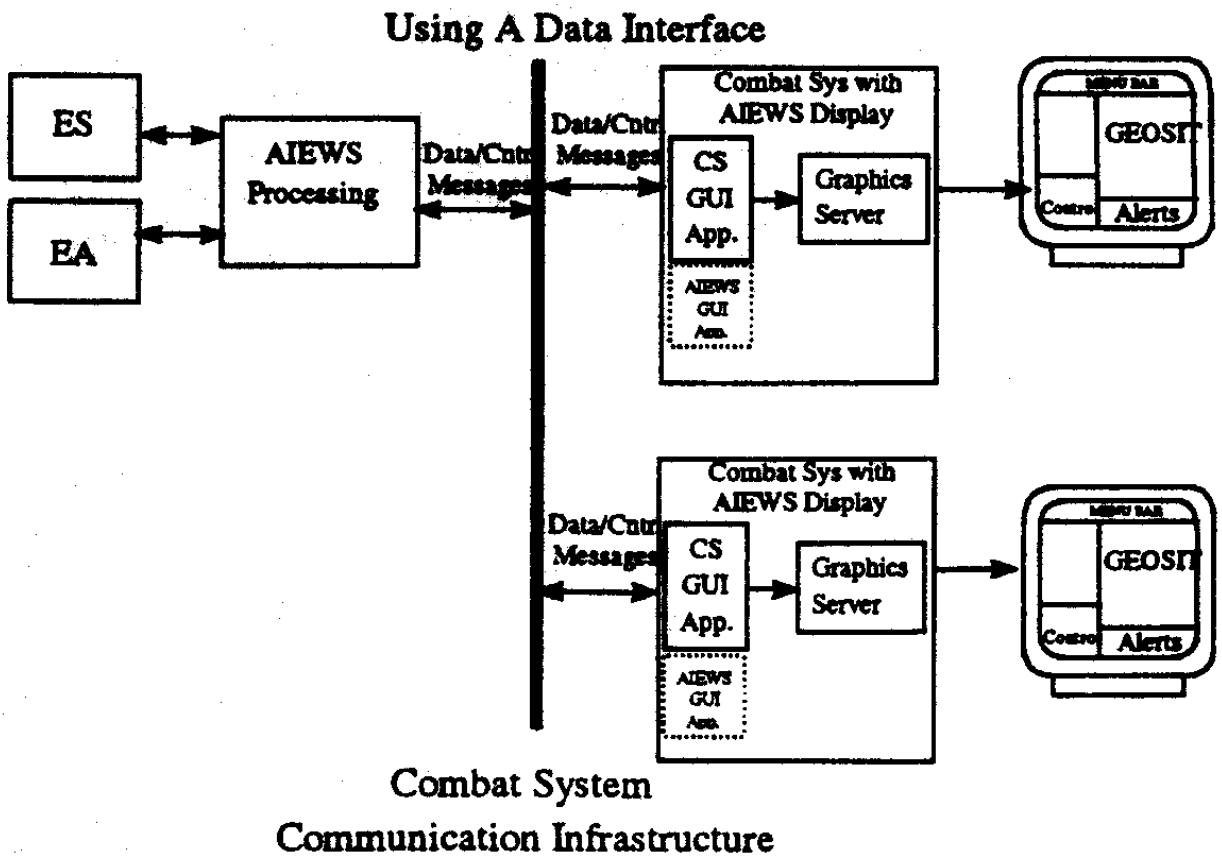

Figure 2. Data Interface

The discussion relating to the integration of AIEWS into the Combat Direction System yielded a number of initial agreements. The first methodology presented was labeled the "Data Interface", see Figure 2. Using this methodology AIEWS will be responsible for sending and receiving data/control information between itself and the Combat Direction System. The Combat Direction System will manage the integration of AIEWS information into the Combat Direction System's tactical picture. Additionally, the displays and controls associated with an EW Evaluator would be implemented by the Combat Direction System. AIEWS will still have the responsibility of specifying the overall display and control requirements. The integration methodology depicted in Figure 2 was decided to be the most desirable interface methodology presented, from a technical implementation perspective.

A second methodology which could provide AIEWS some flexibility in managin programmatic fluctuations was presented. This methodology labeled the "Data Interface with Remote X Capabilities" is depicted in Figure 3. Because of Combat Direction System integration schedules, AIEWS may need to plan for a display console which is not fully integrated. With this in mind, AIEWS personnel felt that having the capability to send and receive data/control information and to generate X commands to the Combat Direction System was necessary to having programmatic flexibility. AEGIS and ISDS Combat Direction System subject matter experts stated this second methodology, depicted in Figure 3, could be used as a bridge, until the first methodology could be fully implemented.

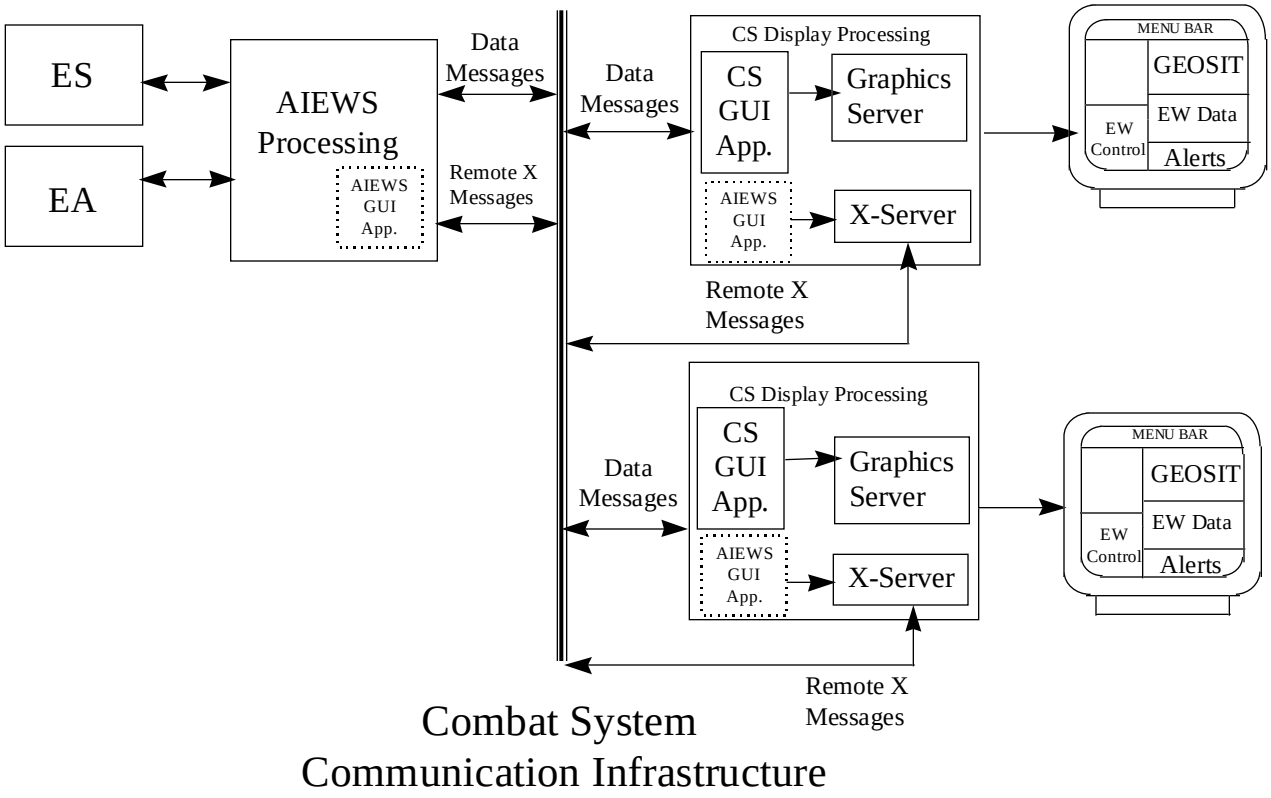

Figure 3. Data Interface With Remote X Messages

A number of AIEWS implementation preferences were also discussed during this meeting. AIEWS personnel indicated that they would like to see a common Application Programmer Interface (API) between AIEWS and the two candidate Combat Direction Systems. The desired implementation would be to develop one set of requirements and one software capability that would support both Combat Direction System candidates. It is envisioned that this API be used to insulate AIEWS from actual Combat Direction Systems communications infrastructure.

Another idea expressed was to use one communication protocol when talking to both Combat Direction System candidates. After some discussion both AEGIS and ISDS Combat Direction System subject matter experts agreed that they could support TCP/IP and lightweight protocols such as UDP and XTP. It was stated that AIEWS would be connected to the ISDS communications adapter card via this method on ISDS equipped ships.

PEO(TAD) D23A directed that NSWC/DD make all information developed in the External Interface Product Team (IPT) effort be made available to all AIEWS bidders. The purpose of this IPT is to assist in the development of an Interface Requirement Specification(s) between the Combat System and AIEWS. This should include the data/control interface and display requirements. Additional data from this IPT will be made available on this web site and in the RFP.